

Claims

1. A method of treating a titanium metal implant for use
in a surgical procedure, so as to form a surface layer
5 that is integral with the metal substrate and which
incorporates a biocidal material, wherein the method
comprises anodising the implant at a voltage above 50 V
for a period of at least 30 min, so as to generate a
surface layer, and then performing ion exchange so as to
10 incorporate ions of a biocidal metal into the surface
layer.
2. A method as claimed in claim 1 wherein the anodising
is performed so as to generate a dense hard surface layer
15 and also shallow pits in the surface which are filled
with a somewhat softer and more porous material, and
wherein the magnitude of the anodising voltage and its
duration are controlled, so as to control the number and
size of the shallow pits.
- 20 3. A method as claimed in claim 1 or claim 2 wherein the
the biocidal metal is silver.
4. A method as claimed in any one of the preceding
25 claims wherein the anodising step uses an electrolyte
comprising phosphoric acid.
5. A method as claimed in claim 4 wherein the phosphoric
acid is of concentration between 5% and 20% by weight.
- 30 6. A method as claimed in claim 4 or claim 5 wherein the
electrolyte comprises chloride ions at a concentration no
more than 500 ppm.